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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,561	09/15/2003	Michael J. Locke	80107.077US1	9743

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LeMoine Patent Services, PLLC
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P.O. Box 52050
Minneapolis, MN 55402

EXAMINER

RUTHKOSKY, MARK

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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11/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/662,561	Applicant(s) ROCKE ET AL.	
	Examiner Mark Ruthkosky	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,7,8,10-12 and 30-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,7,8,10-12 and 30-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/13/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 7-8, 10-12 and 30-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The newly added limitation, “means for reducing a clock frequency of the microprocessor in response to the temperature” was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe a means that will reduce a clock frequency of the microprocessor in response to the temperature. No means are disclosed for this purpose. Further, with regard to claim 30, the specification does not describe a means that will reduce voltage provided to the integrated circuit in response to the temperature. No means are disclosed for this purpose.

Claims 1-3, 7-8, 10-12 are also rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the

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claimed invention. The specification does not disclose a "clock frequency." There is support in paragraph 31 for an "operating frequency of a processor."

Claim Rejections - 35 USC § 102

The rejection of claims under 35 U.S.C. 102(e) as being anticipated by Fukazu et al. (US 2002/0011327) has been overcome by applicant's amendment to the claims.

The rejection of claims under 35 U.S.C. 102(e) as being anticipated by Gottmann al. (US 2003/0157386) has been overcome by applicant's amendment to the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-8, 10-12 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukazu et al. (US 2002/0011327) OR Gottmann al. (US 2003/0157386) in view of Margiott et al. (US 6,519,510.)

The instant claims are to an apparatus comprising a fuel cell; a microprocessor; a cooling system to cool the fuel cell and the microprocessor; the cooling system including a fluid medium to remove heat from the fuel cell and the microprocessor; a temperature sensor to sense a temperature of the fuel cell; and means for reducing a clock frequency of the microprocessor in response to the temperature

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The claims are to an apparatus, which is a product. Language that suggests or makes optional, but does not limit the claims to a particular structure does not limit the scope of the claims or claim limitation. MPEP 2106c and 2111.04 reasons that statements of intended use, and language including “adapted to,” “adapted for,” and “means for” clauses, and “wherein” or “whereby” clauses, which do not limit claims to a particular structure, do not limit the scope of a claim. The instant claims include intended use language. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. When the prior art structure is capable of performing the intended use, it meets the claim. The phrases including “adapted to” and “configured to” do not limit claims to a particular structure, but recite a use of the claimed structure. These limitations are not given patentable weight.

Fukazu et al. (US 2002/0011327) teaches an apparatus comprising a fuel cell; a microprocessor; and a cooling system to cool the fuel cell and the microprocessor; wherein the cooling system includes a fluid medium to remove heat from the fuel cell and the microprocessor (see paragraphs (0025-29, 33, 57, figures 1-3, and claims 1-6.) The cooling system includes water that goes through a phase change to a vapor at 100 C (p. 54.) Condensers are noted (p. 29.) A power control unit is noted (p. 29, 57-60.) The unit processes information and determines allocations of electrical power for the fuel cell and other electronic devices. The reference does not specifically teach an antenna, however, the circuit is connected to a number of metal members, including cooling fins, which will inherently function as an antenna. The microprocessor and control units constitute a means for reducing the clock frequency of the microprocessor, OR a voltage provided to the integrated circuit, in response to the temperature.

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Although the reference does not disclose the means for this purpose, the claims are to a product. The intended use limitation does not result in a structural difference between the claimed invention and the prior art.

Gottmann al. (US 2003/0157386) teaches an apparatus comprising a fuel cell; a microprocessor; and a cooling system to cool the fuel cell and the microprocessor; wherein the cooling system includes a fluid medium to remove heat from the fuel cell and the microprocessor (see paragraphs (0039-40, 71-76, 78-82, figure 3, and claims 1-61.) The cooling system includes water that goes through a phase change to a vapor at 100 C and lithium bromide (p. 76.) Condensers are noted. A power control unit is noted (p. 29, 57-60.) The unit processes information and determines allocations of electrical power for the fuel cell and other electronic devices. The fuel cell may be used in a computer (77-78.) The reference does not specifically teach an antenna, however, the circuit is connected to a number of metal members, including cooling fins, which will inherently function as an antenna. The microprocessor and control units constitute a means for reducing the clock frequency of the microprocessor, OR a voltage provided to the integrated circuit, in response to the temperature. Although the reference does not disclose the means for this purpose, the claims are to a product. The intended use limitation does not result in a structural difference between the claimed invention and the prior art.

The Fukazu et al. (US 2002/0011327) and Gottmann al. (US 2003/0157386) references do not teach an apparatus, as claimed, that includes a temperature sensor. The references do disclose performing functions in response to measured temperatures. Margiott et al. (US 6,519,510), however, teaches a heat and power fuel cell system that includes a controller that is connected to a temperature sensor (claims 1-3, col. 5, lines 40-end.) The fuel cell system

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includes a controller that changes that state of operation in response to the temperature sensed.

The pump and cooling fan may be adjusted in response to temperature changes (col. 5, lines 40-

end.) A load control means and a processor are noted. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to include a temperature sensor as

taught by Margiott et al. (US 6,519,510), in order to maintain thermal control of the fuel cell

system and use the temperature sensors to monitor and adjust the system at various states of

operation as taught in cols. 5-6 of the Margiott reference. Further, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to include a temperature sensor

as taught by Margiott et al. (US 6,519,510), in the microprocessor in order to monitor the

temperature of the microprocessor and adjust the coolant flow or microprocessor use and

maintain safe operating temperatures. The artisan would have found the claimed invention to

be obvious in light of the teachings of the references.

Response to Arguments

Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments are based on the claims as amended. The amended claims have been addressed in the new rejections of record.

With regard to the claim language that includes "means for," the language does not meet the requirements for 35 U.S.C. 112, 6th paragraph, as the disclosure does not meet the three prong test required to invoke paragraph 6 of 35 U.S.C. The disclosure, at least, does not have

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support for means that perform the required function. Further, there is structure combined with the function in the claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

Art Unit 1745

Mark Ruthkosky
10.29.2007